

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000764**Date Inspected:** 01-Nov-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Fu Guo Gang	CWI Present:	Yes	No
Inspected CWI report:	Yes No N/A	Rod Oven in Use:	Yes No N/A	
Electrode to specification:	Yes No N/A	Weld Procedures Followed:	Yes No N/A	
Qualified Welders:	Yes No N/A	Verified Joint Fit-up:	Yes No N/A	
Approved Drawings:	Yes No N/A	Approved WPS:	Yes No N/A	
		Delayed / Cancelled:	Yes No N/A	
Bridge No:	34-0006	Component:	OBG Weld trial	

Summary of Items Observed:

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication of the Orthotropic Box girder Weld Trial scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

The QA inspector witnessed the weld trial at the junction of the U-ribs and the deck plate for the Orthotropic Box Girder (OBG) Mock-up, ABF representatives Mr. Steve Lawton, Mr. Craig Knops, Mr. Peter Ferguson, Mr. David Williams and Mr. Art Peterson, ZPMC representatives Mr. Fu Yu Hong and Mr. Shen Xu Jun and Caltrans representatives Mr. Robert Cuellar, Mr. Keith Devonport, Mr. Alistair Melville, Mr. Ady Velasco, Mr. Larry Viars and Mr. Sean Eagen were present at the OBG fabrication shop. ZPMC had approximately one (1) control panel Operator, six (6) Welders, five (5) QC inspectors, two (2) QA inspectors, two(2) Supervisor and three (3)Grinders at the lower level, and one (1) QC inspector and two (2) workers at the upper platform.

The test started at approximately 0800 hours. The root pass was welded with the automatic Gantry Lincoln machine with the gas metal arc welding (GMAW)process. The welding parameters target on the ZPMC's Welding procedure specification (WPS)WPS-B-T-2342-U1(Urib) for the GMAW process were confirmed by Lincoln Electric Company as metal transferring with spray transfer mode. The cover pass was welded with the submerged arc welding (SAW) process using the target values listed on the WPS-B-T-2322-U1(Urib). The QA inspector performed random verifications for the amperages, voltages and travel speed with the assistances of Caltrans representative Mr. Larry Viars. The welding parameters recorded by the QA inspector appeared to be in general compliance with the WPSs target values.

ZPMC GMAW and SAW welding operators performing welding operations on the OBG weld trail were listed as follows: Zhang Shao Hui at the U-ribs U-05 weld joints # 10, Tang Liang welding at the U-ribs U-05 weld joints # 9, Fen Chuan Hong at the U-rib U-75 weld joint # 6, Jing Ting Guang welding at the U-rib 75 weld joint # 5, Xu

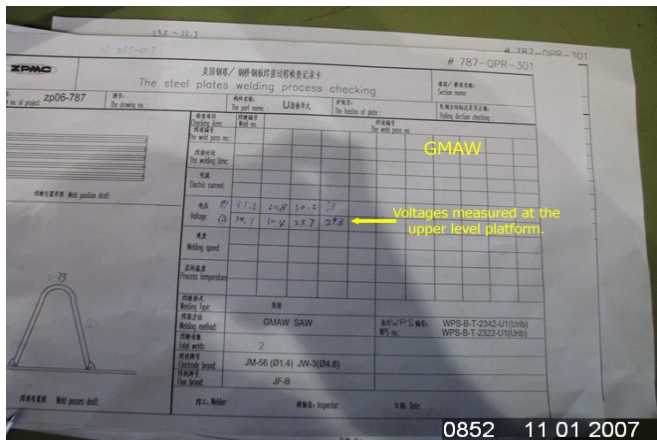
WELDING INSPECTION REPORT

(Continued Page 2 of 3)

Guo Yin welding at the U-ribs U-73 weld joints # 1 and welding operator Son Yin Shu performing welding operations at the U-ribs U-73 weld joints # 2.

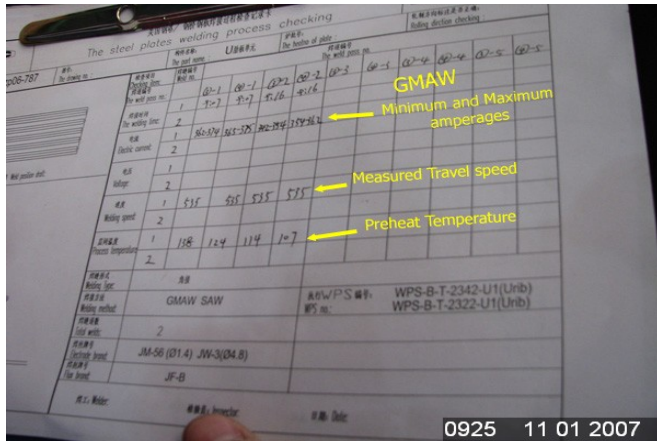
The QA inspector performed observations of the welding at the inside of the U-ribs of the GMAW process root pass. The QA inspector observed what it appeared to be blow thru on the inside of the U-ribs. The QA inspector with the assistance of the QA inspector Larry Viars marked the locations. The QA inspector would verify later this locations during the final visual inspection.

The photographs below show the ZPMC second OBG weld trial activities and ZPMC QC welding reports.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Item	Description	WBS	Dwg No.	Status
2	<p>Gaps verifications after positioning the panel over the negative deflection jig</p> <p>In random inspection to the tack welds, Mr. Larry Viars informed that after random verifications of the root gaps, Mr. Larry Viars observed that after moving the deck panel over the negative deflection jig, some of the gaps in localized areas were increased measuring from 0.5 and 1 mm maximum at the weld joint # 10 and decreased from 0.55 to 0.35 mm at the weld joint # 10.</p>			

Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Acuna,Alfredo	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer